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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/650,103	08/29/2000	FRANCIS A. ABRAMOVICH	BUR9-1999-0267-US1	9020

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DELIO & PETERSON, LLC  
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NEW HAVEN, CT 06510

EXAMINER
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13

EL ARINI, ZEINAB

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/650,103

Applicant(s)

ABRAMOVICH ET AL.

Examiner

Zeinab E. EL-Arini

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/22/03 has been entered.
2. Claims 19, and 29-30 have been cancelled.
3. Claims 1-18, and 20-28 are pending.

### ***Specification***

4. The abstract of the disclosure is objected to because it is directed to a method and apparatus and not to a method as claimed herein. Correction is required. See MPEP § 608.01(b).
5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3, 5, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 3 and 5, line 4, "the water layer" lacks antecedent basis.

In claim 27, line 2, "the surface component" lacks antecedent basis.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, 8-9, 11-18, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berbel or Matthews.

Berbel as discussed supra in paper No. 6 teaches a method for drying objects. The method comprising providing at least two fluids of different densities such that a fluid interface exist between each fluid, providing the article, positioning the article into one of the at least two fluids, and passing the article through at least one fluid interface vertically. See the abstract, col. 2, line 58- col. 3, line 48, col. 4, lines 21-60, col. 6, lines 14-56, and the claims. Berbel teaches that the volatile second fluid is pumped into the container from beneath the first fluid, thereby scrubbing the object with the first and second fluids as the second fluid pushes the first fluid to the exit. See col. 3, lines 17-21. The reference also teaches that the object 46, when introduced along path 60, first is washed by first fluid 48, then by volatile second fluid 50 until it is removed from container 12. See col. 4, lines 52-60. The reference also teaches removing the particles that adhere to the surfaces. See col. 6, lines 48-56.

Matthews as discussed supra in paper No. 6 teaches a process for removing organic materials from semiconductor wafers, and a

process for drying the wafers. The reference teaches providing two fluids of different densities, the interface, passing the article through

the at least one fluid interface vertically, and drying the wafers. The reference teaches using the organic solvent such as ether, ketones. See col. 15, line 7- col. 16, line 48, and the claims.

However Berbel and Matthews do not disclose removing contaminants from the surface of an article as claimed.

It would have been obvious for one skilled in the art to use the process taught by Berbel or Matthews to remove the contaminants from an article surface, because the process as taught by Berbel and Matthews is functionally equivalent to the process as claimed.

This is because scrubbing the article as taught by Berbel and removing the water including the residues taught by Matthews are functionally equivalent to removing the contaminants from an article surface as claimed.

10. Claims 7, 10, 20, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berbel or Matthews as applied to claims 1-6, 8-9, 11-18, and 21-24 above, and further in view of Li and Squires et al.

Berbel and Matthews as discussed supra do not teach the etching, , the etchant fluid, and the agitation as claimed.

Li as discussed supra in paper No. 6 teaches a method and compositions for cleaning silicon wafers in a two- phase liquid system. See the abstract. Li teaches the etchant, the at least two fluids of different densities, using the nonpolar organic liquids, which include ethers, ketones, and alkenes. See col. 3, lines 10-67, and cols. 4-6, and the claims.

It would have been obvious for one skilled in the art to use the etchants and the etching step taught by Li in the process taught by Berbel or Matthews to obtain the claimed process. This is because it is well known in the art to use etchants to remove the contaminants from a surface of an article.

Squires et al. as discussed supra in paper No. 6 teach a method for stripping organic coating from substrates. The reference teaches the two- phase fluids, and the agitation as claimed.

It would have been obvious for one skilled in the art to use the agitation taught by Squires et al. in the process taught by Berbel or Matthews to improve the removing process. This is because using the agitation will enhance the cleaning or the removing process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeinab E. EL-Arini whose telephone number is (703) 308-3320. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.



Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*Zeinab E. EL-Arini*  
Zeinab E. EL-Arini  
Primary Examiner  
Art Unit 1746

ZEE  
May 29, 2003